

Attorney Docket No.: RCK0017US.NP
Inventors: Fuchs et al.
Serial No.: 10/580,511
Filing Date: February 13, 2007
Page 4

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A method for isolating a self-renewing, multipotent, slow-cycling cell comprising obtaining a population of cells from a sample and sorting the population of cells based on the presence of CD34 and the amount of a selected slow-cycling cell marker expressed by each cell, so that a self-renewing, multipotent, slow-cycling cell is isolated, wherein the selected slow-cycling cell marker is selected from the group of Transcription Factor 3, Transcription Factor 4, Alpha 6 Integrin, G-Protein-Coupled Receptor 49 and Bone Morphogenetic Protein Receptor 1A.

Claims 2-6 (canceled).

Claim 7 (previously presented): A method for isolating a self-renewing, multipotent, slow-cycling cell comprising:

a) introducing into a cell a nucleic acid sequence encoding a regulatable transcription factor operably linked to a promoter which is active in a slow-cycling cell;

b) introducing into said cell a nucleic acid sequence encoding a reporter protein operably linked to a regulated promoter to which the regulatable transcription factor binds;

c) activating the regulatable transcription factor so that expression of the reporter protein is increased;

d) inactivating the regulatable transcription factor so that expression of the reporter protein is decreased;

Attorney Docket No.: RCK0017US.NP
Inventors: Fuchs et al.
Serial No.: 10/580,511
Filing Date: February 13, 2007
Page 5

e) incubating the cell for a sufficient amount of time so that the cell goes through one or more cell cycles to generate a population of cells;

f) detecting the amount of reporter protein in the population of cells;

g) sorting the population of cells by the amount of reporter protein present in each cell,

wherein sorted cells containing increased levels of the reporter is indicative of said sorted cells being self-renewing, multipotent, slow-cycling cells.

Claim 8 (original): The method of claim 7, further comprising the step of:

h) sorting the population of cells based on the presence of CD34 and the amount of a selected slow-cycling cell marker.

Claims 9-20 (canceled).